

What is claimed is:

1. A memory device comprising:
a plurality of memory array blocks, each comprising a plurality of memory cells
arranged in rows that are coupled together by wordlines; and
a row decoder coupled to the plurality of memory array blocks through the
wordlines.
2. The memory device of claim 1 and further including a plurality of external address
signals coupled to the row decoder such that a wordline is selected in response to
the address signals.
3. The memory device of claim 1 and further including a plurality of sense amplifiers
coupled to outputs of the memory cells to detect data in the memory cells.
4. The memory device of claim 1 wherein each memory array block comprises 256
wordlines.
5. The memory device of claim 1 wherein the plurality of memory cells are flash
memory cells.
6. The memory device of claim 1 wherein the memory device is a NAND flash
memory device.
7. The memory device of claim 1 wherein the memory device is a NOR flash memory
device.
8. The memory device of claim 1 wherein the plurality of memory array blocks
comprises eight memory array blocks.

9. A flash memory device comprising:
 - a plurality of n-wells comprising an n-type conductivity material;
 - a plurality of p-wells comprising a p-type conductivity material, each p-well located within an n-well;
 - a plurality of flash memory array blocks, each comprising a plurality of flash memory cells arranged in rows that are coupled together by wordlines, each flash memory array block located within a different p-well of the plurality of p-wells; and
 - a row decoder coupled to the plurality of memory array blocks through the wordlines, external address signals coupled to the row decoder such that a wordline is selected in response to the address signals.
10. The flash memory device of claim 9 wherein a voltage of 0V is applied to the n-well and a voltage of -5V is applied to the p-well of an unselected flash memory array block during an erase operation.
11. The flash memory device of claim 9 wherein a voltage of 5V is applied to the n-well and a voltage of 5V is applied to the p-well of an unselected flash memory array block during a program operation.
12. A memory device comprising:
 - a plurality of memory array blocks arranged in rows comprising at least two memory array blocks, each memory array block comprising a plurality of memory cells arranged in rows that are coupled together by wordlines; and
 - a plurality of row decoders, each row decoder coupled to a subset of the plurality of memory array blocks through the wordlines.
13. A flash memory device comprising:
 - a plurality of lower wells comprising a first conductivity material;

a plurality of isolation wells comprising a second conductivity material, each isolation well located within a lower well;
a plurality of flash memory array blocks, each comprising a plurality of flash memory cells arranged in rows that are coupled together by wordlines, each flash memory array block located within a different isolation well of the plurality of isolation wells; and
a row decoder coupled to the plurality of memory array blocks through the wordlines, external address signals coupled to the row decoder such that a wordline is selected in response to the address signals.

14. The flash memory device of claim 9 wherein a voltage of 0V is applied to the lower well and a voltage of -5V is applied to the isolation well of an unselected flash memory array block during an erase operation.
15. The flash memory device of claim 9 wherein a voltage of 5V is applied to the lower well and a voltage of 5V is applied to the isolation well of an unselected flash memory array block during a program operation.
16. The flash memory device of claim 9 wherein the first conductivity material is an n-type conductivity material.
17. The flash memory device of claim 9 wherein the second conductivity material is a p-type conductivity material.
18. A method for programming a memory cell in a memory array block of a plurality of memory array blocks, each memory array block located within a first conductivity material that is located within a second conductivity material, the method comprising:
generating an address signal of the memory cell;

a row decoder selecting, in response to the address signal, a wordline signal that is coupled to the memory cell, the wordline signal additionally coupled to the plurality of memory array blocks;

coupling a first voltage that is greater than 0V to the first conductivity material of memory array blocks that are not selected by the wordline signal; and

coupling a second voltage that is greater than 0V to the second conductivity material of memory array blocks that are not selected by the wordline signal.

19. The method of claim 18 wherein the first and second voltages are substantially equal to +5V.

20. A method for erasing a memory cell in a memory array block of a plurality of memory array blocks, each memory array block located within a first conductivity material that is located within a second conductivity material, the method comprising:

generating an address signal of the memory cell;

a row decoder selecting, in response to the address signal, a wordline signal that is coupled to the memory cell, the wordline signal additionally coupled to the plurality of memory array blocks; and

coupling a voltage that is less than 0V to the second conductivity material of memory array blocks that are not selected by the wordline signal.

21. The method of claim 20 wherein the voltage is substantially equal to -5V.

22. An electronic system comprising:

a processor that controls operation of the electronic system and generates address signals; and

a flash memory device coupled to the processor, the device comprising:

a plurality of memory array blocks, each comprising a plurality of memory cells arranged in rows that are coupled together by wordlines; and a row decoder coupled to the plurality of memory array blocks through the wordlines, the row decoder coupled to the address signals and selecting a wordline in response to the address signals.